believe that in the art of writing, the visual impressions of words and letters are utilized, while others contend that the sound and articulation memories are converted into graphic symbols. The author asserts that both visual and auditory memories are concerned in spontaneous writing; while in writing to dictation the auditory memories alone are involved and in copying the visual memories. Hence granting an independent center for writing in the base of the second frontal convolution, the lesion would implicate the tract uniting this center with the cortical visual center in the case under discussion. The peculiar nature of the functional disturbance is regarded as a sort of *claudication intermittente.* Because of the functional resemblance to the condition described as dyslexia (Bruns), the term dysantigraphia is suggested as appropriate.

(Vol. 12, 1904, No. 4. February 29.)

1. A Case of Brachial Neuritis with Autopsy. M. W. E. Taylor (Cleveland).

1. *A Case of Brachial Neuritis with Autopsy.*—The patient, a woman, aged 55, developed symptoms of a right brachial neuritis. Pain began in the ulnar distribution, later extending to the whole arm. The attack lasted six weeks. Six years after the first attack she was again seized with sharp pains in the right arm, followed by progressive atrophy of the muscles; very pronounced in the intrinsic muscles of the hand, less marked in the forearm and only slightly indicated in the arm and shoulder. Electrical reactions were those of degeneration. The tactile sense was diminished over the whole arm and the pain and temperature sense were diminished in the area corresponding to the distribution of the median and ulnar nerves. The bone sensibility was likewise diminished. No trophic disturbances. There was extreme tenderness of the peripheral nerve trunks and of the plexus. The terminal branches of the nerves and the muscles were also quite tender. Two years later the atrophy had diminished somewhat in intensity, but the objective sensory disturbances and the tenderness remained the same. These conditions persisted until the death of the patient, 14 years after the initial attack. *Autopsy:*—Microscopically the cord, nerve roots and nerves were normal, save a dimunition in the size of the ulnar nerve. In the ulnar, median and musculo-spiral nerves, there was evidence histologically of an old parenchymatous process with secondary hyperplasia of the neural connective tissue. These changes were marked in the ulnar nerve, especially at the wrists, and present to a lesser degree in the median and musculo-spiral, diminishing in intensity in the axillary region. From the fifth cervical to the first dorsal segments inclusive, the right anterior horn was diminished in volume and the ganglion cells occupying a lateral postition in the horn were shrivelled and atrophied. The anterior and posterior spinal nerve roots were normal. The etiology is unknown, but a toxic or infectious origin was thought probable.

J. Ramsay Hunt (New York).

NEUROLOGISCHES CENTRALBLATT

(Vol. 22, 1903, No. 15. August 1.)

1. Case of Peripheral Right Sided Paralysis of the Hypoglossal Nerve. A. Pauski.
2. Concerning the Diagnostic Value of Irregular Pupils in the So-Called Organic Nervous Disease. J. Piltz.
3. Concerning the Pathogenesis of the Specific Illusions of General Paretics. A. Wizel.

1. *Paralysis of the Hypoglossus.*—After reviewing the literature of peripheral palsies of the hypoglossal nerve, Pauski records a case of a woman, 29 years old, who had a severe angina, which was complicated by a swelling of the lymphatic (cervical) glands. The pus was relieved by an incision and after recovery it was noticed that there was a right-sided atrophy and paralysis of the tongue. There were no fibrillary twitchings or changes in the electrical reactions. She recovered fully in ten weeks. The cause of the neuritis was the swelling of the cervical glands, the infection being transmitted to the nerves under the tongue. This makes the fifth similar case reported.

2. *Diagnostic Value of Irregular Pupils.*—In the clinical part of his paper Piltz reviews all the literature of the subject and agrees with the most recent authors, Joffroy and Schrameck, who summarize their findings as follows: (1) Every change in the form of the pupil, every irregularity of its contour, ruling out an anomalous condition of the iris and synechia, even when the light reaction is present, indicates either general paralysis, tabes dorsalis or syphilis. (2) The value of the irregular pupil from a diagnostic standpoint is as important as the Argyll-Robertson pupil, and may be the preliminary stage of that pupil. For convenience's sake Piltz classifies the pupillary irregularities into two categories, fluctuating and constant, and he further includes under the first head, transitory paresis of a part of the iris and a displacement of the position of the whole pupil. Small changes occur in general paresis and in katatonia. In the second category belong all changes which may occur in the organic brain and mental diseases. To determine the cause of the pupillary changes Piltz carried on a series of experiments upon the lower animals by stimulating by means of an induced current, the ciliary ganglion and the long and short ciliary nerves, and produced every kind of change ever noticed in man. His conclusions are as follows: (1) The following pathological changes in the contour of the pupil may be observed, (a) summary of fluctuating changes of the different parts of the iris, (b) disturbance of the position of the whole pupil, (c) constant irregularities. (2) All of these changes are constant in general paresis, tabes dorsalis and cerebrospinal syphilis. (3) This sometimes occurs in the case of other nervous diseases, and rarely in the healthy. (4) As the irregularities are sometimes seen upon the appearance of the Argyll-Robertson pupil, and this may be the preliminary stage of this condition, the diagnostic feature is evident. (5) In the similarity of the experimental and pathological condition of the pupils, it is probable that the nuclei of the long and short ciliary nerves are affected. (6) Irregular motility of a separate part of the iris depends upon a paresis of the corresponding branch of the ciliary nerves. (7) Disturbance of the position of the whole pupil is an indication of a combination of irritation, or paresis, or paralysis of the different branches of the long and short ciliary nerves. (8) Constant irregularity is the result of a complete paralysis of a particular part of the iris, due most probably to an atrophy of its nerve cell.

3. *Pathogenesis of Specific Illusions in General Paretics.*—The delusions of general paretics are characterized by exaggerated ideas and uncontrolled hyperbolism, while those of a paranoiac are usually confined within the bounds of possibility. Wizel gives the results of experiments to determine the basis of the specific delusions met with, principally as regards the sense of time and space, and comes to the conclusion, that general paretics have lost all idea of time and space. As a consequence all ideas which depend upon these qualities are invariably wrongly represented.

(Vol. 22, 1903. No. 16. August 16.)

1. A Further Contribution to the Pathology of Tetany, Together With a Note Concerning the Chemistry of Calcified Cerebral Vessels. A. PICK.
2. Concerning the Anthropology of the Spinal Cord. H. PFISTER.
3. Perverse Temperature Findings. W. ALTER.
4. Concerning a New Method for Staining Medullary Sheaths. E. FRAENKEL.
5. On the Histology of Multiple Sclerosis. M. BIELSCHOWSKY.

1. *The Pathology of Tetany.*—In a previous number of this journal Pick reported two cases of tetany in which on examination he found a calcified condition of the minute arteries of the grey matter of the cerebrum and cerebellum. He now reports a third case with similar findings. In his third case he found the vessels of the cerebellum calcified, especially those in the neighborhood of the nucleus dentatus. The vessels of the grey matter of the cerebrum were much less calcified than those of the basal ganglia. Pick and Gierke have demonstrated that certain calcified vessels were characterized by a presence of calcified albumite of iron. An examination of the calcified nodules of this case gave a positive reaction for iron. As a consequence of the author's having found this calcified condition of the arteries in four cases of tetany, he concludes that this condition may be a constant phenomenon of this disease and may be its etiological factor.

2. *Anthropology of the Spinal Cord.*—(Continued Article.)

3. *Perverse Temperature Findings.*—Alter reports a very interesting case of perverse temperature perception in a general paretic. Testing this man anywhere he would call cold, warm and warm, cold. He was put in a bath, but with the same result. There is no adequate explanation for this phenomenon.

4. *New Medullary Stains.*—Frankel describes a new stain for medullary sheaths. The tissues to be stained are hardened in Müller's fluid or in Weigerts' potassium bichromate solution. After embedding in celloidin the sections are placed in polychrome methylene blue for two to four hours, then washed in distilled water and differentiated in a saturated watery solution of tannic acid. The differentiation is carried on until the section is almost decolorized, and is again washed in distilled water. The same process is carried on again, but the differentiation is only allowed to the required degree. The sections are then placed in 96 per cent. alcohol, cleared in oil of bergamot and xylol, and mounted in balsam. Fraenkel claims that this method stains the tangential and the underlying supraradial fibers ideally, and it is well known that this is hard to bring out by other stains. Again in addition to staining the medullary sheath a blue black, it also stains the nuclear elements, thereby obviating the necessity for other stains.

5. *Histology of Multiple Sclerosis.*—The author had opportunity to study five cases of multiple sclerosis—clinically and pathologically. The cases were from two to twenty years in duration. By a method which the author previously described in this journal and by a modification of this method which is soon to be published the axis cylinders both in medullated and in unmedullated fibers is shown. This method depends upon the reduction of an ammoniacal silver solution by formaldehyde. Sclerotic masses which stained by Weigert's method appeared to be free from fibers, by the silver impregnation method were full of axis cylinder fibers. Both in the old and the recent sclerotic masses the axis cylinders stained equally well and showed no alteration as compared to healthy tissue. In one section taken from the medulla it was impossible to trace the degenerated from the healthy nerves, except by the presence of the

diseased blood-vessels. In some sections, however, the fibers were involved and varied in shape, some being beady and others split. It was interesting to compare this method with other stains, as Kaplan's axis cylinder stain, which stains a cement substance in the medullary sheath, called by him the axostrome. This substance is histologically and chemically associated with the sheath. The axostrome picture of old sclerotic patches seems perfectly normal, while in fresh patches on the other hand, the axostrome stain, showed fibers in places where there were none by the Weigert stain. Therefore, the author concludes there are two categories in the axis cylinders of sclerotic patches, (1) those in which the axostrome is retained, (2) those in which the axostrome is lost. The axostrome free fibers are well shown by the silver impregnation method, and in most cases cannot be distinguished from medullated fibers. Bielschowsky believes that the axis cylinder processes seen by his method of impregnation are the remains of the old fibers, and that this makes easier the comprehension of multiple sclerosis, and that it explains the absence of secondary degeneration.

WEISENBURG (Philadelphia.)

DEUTSCHE ZEITSCHRIFT FUER NERVENHEILKUNDE

(Vol. 23, 1903. Heft 3-4.)

10. Contribution to the Pathology and Pathological Anatomy of Toxic Polyneuritis After the Employment of Sulfonal. ERBSLOH.
11. The Sensible and Motor Segmental Localization for the Most Important Nerves of the Brachial Plexus. BIKELES and FRANKE.
12. Cerebral and Spinal Reflexes. V. KORNILOW.
13. Thermoanesthesia and Analgesia as Symptoms of Focal Disease of the Base of the Brain. A Clinical Sketch. ROSSOLIMO.
14. Casuistic Contribution to the Differential Diagnosis of Multiple Sclerosis, Particularly as Compared with Cerebral and Cerebrospinal Syphilis. PINI.
15. Actual and Apparent Paralysis of the Serratus. BIRO.
16. The Participation of the Neuroglia in the Formation of Scars in the Brain. EDUARD MÜLLER.
17. Three Cases of Chronic Progressive Chorea, L. MÜLLER. (Chorea Hereditaria, and the Chorea of Huntington.)
18. Brief Communications. Aphorisims upon Psychical Diet. LAQUER.

10. *Toxic Polyneuritis in Sulfonal.*—Erbsloh reports the case of a woman suffering from carcinoma of the cervix. She had had repeated hemorrhages, and had become profoundly anemic. In the course of five days she received 150 gr. of sulphonal in order to control insomnia. Five days later she developed pain in the calves, followed by paralysis, first in the legs and then in the arms. Curiously the feet and hands were the last parts affected. Within 16 days the paralysis had involved the muscles of respiration, and the patient died. The urine contained haematoporphyrin. Mentally she had hallucinations, and towards the end was difficult to arouse, and had incontinence of urine and feces. Macroscopically the central nervous system was negative. There was degeneration in the peripheral nerves involving the myelin sheathes and the axis cylinders, characterized by the appearance of small masses at different points in the myelin sheathes that stained black with osmic acid. The anterior roots of the central nervous system appeared to be intact. There was reason to believe that the process commenced in the peripheral portions of the nerves, and that the functional changes preceded the anatomical changes because in the brachial plexus no histological alterations of the nerves could be detected.